

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An optical wavelength division multiplexing and transmission apparatus, comprising a master rack and at least one slave rack to be combined with the master rack, wherein

the master rack has a plurality of optical connectors configured to connect to a respective slave rack, and the master rack accommodates:

a first optical wavelength multiplexer to multiplex a group number of prescribed optical wavelength signals corresponding to a prescribed wavelength distribution with each other and to output as a first multiplexed signal;

a synthetic optical wavelength multiplexer to multiplex the first multiplexed signal and a second multiplexed signal and to output as a synthetic multiplexed signal; and

an a first optical amplifier in which the synthetic multiplexed signal output from the synthetic optical wavelength multiplexer is multiplied, and

the at least one slave rack is connected to an optical connector of the plurality of optical connectors, and the at least one slave rack accommodates:

a second optical wavelength multiplexer to multiplex a group of optical wavelength signals having a wavelength distribution that is different from that of the group of prescribed optical wavelength signals the prescribed wavelength distribution and to output as the second multiplexed signal; and

a second optical amplifier in which the second multiplexed signal output from the second optical wavelength multiplexer is multiplied,

wherein a number of ~~the~~ optical wavelength signals multiplexed, in the synthetic multiplexed signal in excess of the number of prescribed optical wavelength signals is divided ~~in advance~~ into a plurality of slave rack groups ~~in order to be additionally installed with every~~ and one slave rack is connected to the master rack for each slave rack group of the plurality of slave rack groups.

2. (Currently Amended) An optical wavelength division multiplexing and transmission apparatus, comprising a master rack and at least one slave rack to be combined with the master rack, wherein

the master rack has a plurality of optical connectors configured to connect to a respective slave rack, and the master rack accommodates:

synthetic optical wavelength demultiplexer to input a synthetic multiplexed signal formed by multiplexing respective multiplexed signals of ~~a group of different groups of~~ optical wavelength signals, which are grouped with different optical wavelength distributions, and to demultiplex and output as a first multiplexed signal and a second multiplexed signal from the synthetic multiplexed signal; and

a first optical wavelength demultiplexer to demultiplex and output a group of optical wavelength signals from the first multiplexed signal demultiplexed by the synthetic optical wavelength demultiplexer, and

the at least one slave rack is connected to an optical connector of the plurality of optical connectors, and the at least one slave rack accommodates;

a second optical wavelength demultiplexer to demultiplex and output another group of optical wavelength signals from the second multiplexed signal demultiplexed by the synthetic optical wavelength demultiplexer; and

~~an a first~~ optical amplifier in which the second multiplexed signal output from the synthetic optical wavelength demultiplexer is multiplied,

wherein a number of ~~the~~ optical wavelength signals ~~multiplexed in excess of a number of optical wavelength signals in the group of optical wavelength signals from the first multiplexed signal~~ is divided ~~in advance~~ into a plurality of ~~slave rack~~ groups ~~in order to be additionally installed with every and one slave rack is connected to the master rack for each slave rack group of the plurality of slave rack groups.~~

3. (Currently Amended) An optical wavelength division multiplexing and transmission apparatus, comprising a master rack and at least one slave rack to be combined with and coupled to the master rack, wherein

~~the master rack has a plurality of optical input connectors configured to connect to a respective slave rack, and the master rack accommodates:~~

a first optical wavelength multiplexer to multiplex a ~~group~~ number of prescribed optical wavelength signals ~~corresponding to a prescribed wavelength distribution with each other~~ and to output as a first multiplexed signal;

a synthetic optical wavelength multiplexer to multiplex the first multiplexed signal and a second multiplexed signal and to output as a first synthetic multiplexed signal;

~~an a first~~ optical amplifier in which the first synthetic multiplexed signal output from the synthetic optical wavelength multiplexer is multiplied;

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a synthetic optical wavelength demultiplexer to demultiplex and output as a third multiplexed signal and a fourth multiplexed signal from a second synthetic multiplexed signal transmitted from another optical wavelength division multiplexing and transmission apparatus through an optical transmission line; and

a first optical wavelength demultiplexer to demultiplex and output a group of optical wavelength signals from the third multiplexed signal output from the synthetic optical wavelength demultiplexer, and

the at least one slave rack is connected to at least one optical connector of the plurality of optical connectors, and the at least one slave rack accommodates:

a second optical wavelength multiplexer to multiplex a group of optical wavelength signals having a wavelength distribution that is different from ~~that of the group of prescribed optical wavelength signals the prescribed wavelength distribution~~ to output as the second multiplexed signal[[,]]; .

a second optical amplifier in which the second multiplexed signal output from the second optical wavelength multiplexer is multiplied; and

a second optical wavelength demultiplexer to demultiplex and output another group of optical wavelength signals from the fourth multiplexed signal demultiplexed by the synthetic optical wavelength demultiplexer,

wherein a number of the optical wavelength signals multiplexed in the first synthetic multiplexed signal in excess of the number of prescribed optical wavelength signals is divided ~~in advance~~ into a plurality of slave rack groups ~~in order to be additionally installed~~

with every and one slave rack is connected to the master rack for each slave rack group of the plurality of slave rack groups.

4. (Original) An optical wavelength division multiplexing and transmission apparatus according to claim 1, further comprising a plurality of noise cut filters corresponding to the first multiplexed signal and the second multiplexed signal respectively on an input side of the synthetic optical wavelength multiplexer on which the first multiplexed signal and the second multiplexed signal are input.

5. (Original) An optical wavelength division multiplexing and transmission apparatus according to claim 3, further comprising a plurality of noise cut filters corresponding to the first multiplexed signal and the second multiplexed signal respectively on an input side of the synthetic optical wavelength multiplexer on which the first multiplexed signal and the second multiplexed signal are input.

6. (Original) An optical wavelength division multiplexing and transmission apparatus according to claim 1, further comprising a plurality of dispersion compensation fibers corresponding to the first multiplexed signal and the second multiplexed signal respectively on an input side of the synthetic optical wavelength multiplexer on which the first multiplexed signal and the second multiplexed signal are input.

7. (Original) An optical wavelength division multiplexing and transmission apparatus according to claim 3, further comprising a plurality of dispersion compensation fibers corresponding to the first multiplexed signal and the second multiplexed signal respectively on an input side of the synthetic optical wavelength multiplexer on which the first multiplexed signal and the second multiplexed signal are input.

8. (Currently Amended) An optical wavelength division multiplexing and transmission apparatus according to claim 1, further comprising ~~an a third optical~~ amplifier of the master rack for the first multiplexed signal, a wavelength level monitoring device of the master rack for monitoring an output of the first optical amplifier for the synthetic multiplexed signal, and a plurality of output control circuits for selectively controlling a plurality of levels of signals output from the third optical amplifier for the first multiplexed signal, the second optical amplifier for the second multiplexed signal and the first optical amplifier for the synthetic multiplexed signal respectively in response to a detection output of the wavelength level monitoring device in which a plurality of levels of the optical wavelength signals of the first multiplexed signal, the second multiplexed signal and the synthetic multiplexed signal are monitored.

9. (New) An optical wavelength division multiplexing and transmission apparatus according to claim 1, wherein the master rack further accommodates a third optical amplifier in which the first multiplexed signal output from the first optical wavelength multiplexer is multiplied.

10. (New) An optical wavelength division multiplexing and transmission apparatus according to claim 2, wherein the master rack further accommodates:

a second optical amplifier in which the synthetic multiplexed signal is multiplied before being input into the synthetic optical wavelength demultiplexer; and

a third optical amplifier in which the first multiplexed signal output from the synthetic optical wavelength demultiplexer is multiplied.

11. (New) An optical wavelength division multiplexing and transmission apparatus according to claim 3, wherein the slave rack further accommodates a third optical amplifier in which the fourth multiplexed signal output from the synthetic optical wavelength demultiplexer is multiplied.

12. (New) An optical wavelength division multiplexing and transmission apparatus according to claim 11, wherein the master rack further accommodates:

a fourth optical amplifier in which the first multiplexed signal output from the first optical wavelength multiplexer is multiplied;

a fifth optical amplifier in which the second synthetic multiplexed signal is multiplied before being input into the synthetic optical wavelength demultiplexer; and

a sixth optical amplifier in which the third multiplexed signal output from the synthetic optical wavelength demultiplexer is multiplied.

13. (New) An optical wavelength division multiplexing and transmission apparatus according to claim 3, wherein the master rack further accommodates:

a third optical amplifier in which the first multiplexed signal output from the first optical wavelength multiplexer is multiplied;

a fourth optical amplifier in which the second synthetic multiplexed signal is multiplied before being input into the synthetic optical wavelength demultiplexer; and

a fifth optical amplifier in which the third multiplexed signal output from the synthetic optical wavelength demultiplexer is multiplied.